

Notice of Allowability

Application No.

09/476,615

Examiner

Andre Boyce

Applicant(s)

CRONE, MICHAEL S.

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's After-Final amendment filed February 22, 2006.
2. ☒ The allowed claim(s) is/are 3-5, 7, 14 and 16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☒ to Paper No./Mail Date 3/11/03.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date ____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date ____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

DETAILED ACTION

Response to Amendment

1. This action is in response to Applicant's After-Final amendment filed February 22, 2006. Claims 2, 6, 13, and 15 have been canceled. Claims 3, 7, 14, and 16 have been amended. Claims 3-5, 7, 14, and 16 are pending.

Reasons for Allowance

2. Claims 3-5, 7, 14, and 16 are allowed.
3. The following is an Examiner's statement of reasons for allowance:

With respect to independent claim 3, none of the prior art of record, taken individually or in any combination, teach classification of the scheduling problem, including determining the classification of the problem as a function of the total trip time and the slack time, wherein determining the classification is determined by selecting a predetermined percentage of total trip time to provide a threshold value, and comparing slack time with the threshold value.

With respect to independent claim 7, none of the prior art of record, taken individually or in any combination, teach classification of the scheduling problem, including determining the classification of the problem as a function of the total trip time and the resource exception, wherein determining the classification is determined by selecting a predetermined percentage of total trip time to provide a threshold value, and comparing resource exception with the threshold value.

With respect to independent claim 16, none of the prior art of record, taken individually or in any combination, teach evaluating the resource exception and the cost of the solution against a predetermined criteria, wherein the predetermined criteria is the classification of the problem.

The prior art references most closely resembling Applicant's claimed invention are Matheson et al (USPN 5,623,413) and Fabre et al (USPN 6,405,186).

Matheson et al disclose a slack time percentage parameter, which provides the planner with cushion with respect to movement of the train trips and calculating the total time associated with the execution of each trip using the candidate resources. Further, Matheson et al disclose calculating the total time associated with the execution of each trip using the candidate resources. Further, Matheson et al disclose the resource scheduler indicating that an exception has occurred and the identity of the resources and activities involved in the exception and an energy function in terms of resource exception, operating costs, and goals.

However, Matheson et al does not disclose classification of the scheduling problem, including determining the classification of the problem as a function of the total trip time and the slack time, wherein determining the classification is determined by selecting a predetermined percentage of total trip time to provide a threshold value, and comparing slack time with the threshold value, classification of the scheduling problem, including determining the classification of the problem as a function of the total trip time and the resource exception, wherein determining the classification is determined by selecting a predetermined percentage of total trip time

to provide a threshold value, and comparing resource exception with the threshold value, and evaluating the resource exception and the cost of the solution against a predetermined criteria, wherein the predetermined criteria is the classification of the problem.

Fabre et al disclose simulated annealing, where constructing an initial plan in order to improve the quality of the simulated annealing is done by classifying the request with certain criterion, and selecting the opportunities in the order determined by the previously established classification and classifying requests in accordance with certain criterion in order to construct an initial plan determined by the classification, with respect to optimizing a cost function via a simulated annealing technique.

However, Fabre et al does not disclose classification of the scheduling problem, including determining the classification of the problem as a function of the total trip time and the slack time, wherein determining the classification is determined by selecting a predetermined percentage of total trip time to provide a threshold value, and comparing slack time with the threshold value, classification of the scheduling problem, including determining the classification of the problem as a function of the total trip time and the resource exception, wherein determining the classification is determined by selecting a predetermined percentage of total trip time to provide a threshold value, and comparing resource exception with the threshold value, and evaluating the resource exception and the cost of the solution against a

Art Unit: 3623

predetermined criteria, wherein the predetermined criteria is the classification of the problem.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-Komaya (A New Simulation Method) discloses a new simulation method to emulate human experts' simulating processes of train movements.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571) 272-6726. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



adb

March 13, 2006



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